Reactor Neutrino Working Group

Introduction

Co-conveners:
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February 5, 2015

Logistics

- Slides. Please post on Indico before your talk
- Time limit will be strictly enforced to
- Remote connection via BlueJean

  Meeting Title: WINP WG#7 (Reactor neutrinos)
  Meeting Time: Thursday February 5, 2015 13:30 EST / 4 hrs
  To join or start the meeting, go to:
  https://bluejeans.com/528858112?ll=en&g=nnsxi5dfnrweaytonqxgo33w
  Meeting ID: 528858112

  – please speak loud and into microphone
  – repeat questions from audience
  – only one person speaking

- Mailing list for reactor working group: winp-reactor@lists.bnl.gov

Agenda

Reactor Neutrino Physics - Scientific and R&D Goals (except sterile)		
13.00 (12+2)	JUNO (and RENO-50)	– S. Kettell
13.14 (12+2)	other physics (magnetic moment, coherent)	– T. Figueroa Felici
13.28 (12+2)	NuLAT	– J. Learned/B. Vogt
13.42 (12+2)	PROSPECT	- N. Bowden
discussion		
Reactor Neutrino Physics – Science & Applied Goals		
14.00 (15+2)	Reactor neutrino flux and models	- A. Hayes
14.17 (10+2)	Applied antineutrino physics	– P. Huber
14.29 (10+2)	Far field monitoring	– A. Bernstein
US Facilities		
14.41 (10+2)	HFIR, ORNL	- C Bryan
14.53 (10+2)	NIST and other US reactors	- P. Mumm
15.05 (10+2)	Naval reactor	- C. Lane
15.00-15.30	*coffee break*	
International Context		
15.30 (15+3)	Reactors and experiments in China	- J Cao
13.48 (15+3)	Reactor experiments elsewhere (all except above)	- A. Vacharet
16.06	questions & discussion	
Towards a US Reactor Program		
16.15	US program: synergies and international context (facilitated by WG conveners)	
16.30	Discussion of reactor WG summary bullets	
17.00	Adjourn	

Science

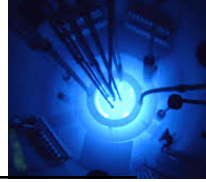
R&D

Applied Goals

Facilities

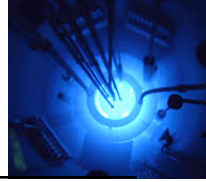
Discussion

Some Questions: Science



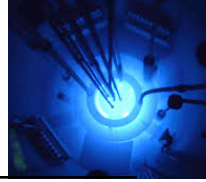
- What opportunities do reactors offer for neutrino experiments?
- What are the advantages of reactor-based experiments?
- What is the complementarity to other non-reactor experiments with similar physics goals?
- What are the synergies of reactor experiments with other scientific and R&D goals?
- What are the outstanding R&D issues with regards to reactor-based measurements?
- How do uncertainties in the reactor modeling and the predicted antineutrino flux and spectrum impact the experiments' sensitivities and physics reach?
- What could be the role of reactor experiments in the US neutrino portfolio for the next decade?

Some Questions: Facilities



- What reactors are available for research in the US and overseas?
- What are the unique features of available reactor facilities for neutrino experiments?
- What is the current user community of these reactors? And what are potential future users? In the US and overseas.
- What experiments have been hosted at US reactors?
- What are the features of US reactor facilities in the worldwide context?
- What is needed to host future experiments at US reactors or at reactors overseas with US involvement? What facility and user support is required to mount experiments?
- What are the opportunities for a US role in neutrino experiments at domestic reactors and reactor oversees?

Goals & Outcome



- Summary bullet points: Charged to produce summary bullet points for WINP summary
  - draft version on Indico and circulated to mailing list
  - aiming for consensus from this working group

- Working group summary talk: Will describe, explain, and illustrate summary bullets points and place into context